

**WHAT IS CLAIMED IS:**

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1. A differential comprising:

a differential housing:

a torque transmission member supported to the  
5 differential housing for rotating relative to the differential  
housing; and

a clutch system configured to interconnect between the  
torque transmission member and the differential housing for  
transmitting a drive torque therebetween.

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2. A differential according to claim 1, further comprising:  
a support member located between the torque transmission  
member and the differential housing, the support member  
supporting the torque transmission member to the differential  
5 housing for rotation.

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3. A differential according to claim 2,  
wherein the support member and the clutch system are  
axially arranged each other.

4. A differential according to claim 1,  
wherein the torque transmission member has a gear located  
in radial alignment with the support member.

25 5. A differential according to claim 2,  
wherein the clutch system comprises:  
a first clutch provided between the torque transmission  
member and the differential housing; and  
an actuator for operating the first clutch,  
30 wherein the first clutch is located axially between the  
support member and the actuator.

35 6. A differential according to claim 2,  
wherein the support member supports at least two points  
of the torque transmission member.

7. A differential according to claim 5,  
wherein the torque transmission member axially has an  
end,

the actuator is located at the end, and  
the first clutch is located axially back from the end.

8. A differential according to claim 2,  
wherein the support member is located in alignment with  
the clutch system.

9. A differential according to claim 5,  
wherein the actuator comprises:  
a second clutch for transmitting a drive torque from the  
torque transmission member; and  
a converter provided between the first and second  
clutches for converting a drive torque to a thrust force and  
for engaging the first clutch.

10. A differential according to claim 9,  
wherein the actuator further comprising:  
an electromagnet system for engaging the second clutch.

11. A differential according to claim 10,  
wherein the electromagnetic system comprising:  
a core;  
a rotor located between the core and the second clutch  
for magnetically conducting therebetween, the rotor being  
supported on the differential housing.

12. A differential according to claim 9,  
wherein the converter comprises: a cam mechanism  
configured to be operated by the second clutch.

13. A differential according to claim 9,  
wherein the second clutch comprises:  
first clutch plates connected the torque transmission

member, the first clutch plates being spaced each other; and  
second plates connected to the converter, respective  
second clutch plates being slidably interposed between  
respective first clutch plates.

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Sub 11 14. A differential according to claim 13,  
wherein the first clutch plates are spaced radially from  
the converter.

Sub 987 15. A differential according to claim 13,  
wherein the second clutch plates are spaced radially from  
the torque transmission member.

15 16. A differential according to claim 10,  
wherein the electromagnet system further comprises:  
an armature configured to be attracted for pressing  
and engaging with the second clutch, the armature being spaced  
radially from the torque transmission member.

Sub 20 17. A differential according to claim 11,  
wherein the rotor has openings each extending within an  
angular range, the openings being angularly spaced from each  
other and being located radially inward of a coil of the  
electromagnet system.

25 18. A differential according to claim 17,  
wherein the openings face a core of the electromagnet  
system.

Sub 30 B4 19. A differential according to claim 2,  
wherein the support member comprises:  
bearings arranged in axial alignment with each other.

Sub 992 20. A differential system comprises:  
a transmission mechanism for transmitting a drive torque;  
a differential;

a torque transmission member being supported to the differential for rotating relative to the differential; and

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2X  
a clutch system configured to interconnect between the torque transmission member and the differential for  
5 transmitting a drive torque between the transmission mechanism and the differential.

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